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# **The Impact of the Polio Eradication Campaign on the Financing of Routine EPI: Finding of Three Case Studies**

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Partnerships  
for Health  
Reform



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Partnerships  
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Reform

## ***Mission***

*The Partnerships for Health Reform (PHR) Project seeks to improve people's health in low- and middle-income countries by supporting health sector reforms that ensure equitable access to efficient, sustainable, quality health care services. In partnership with local stakeholders, PHR promotes an integrated approach to health reform and builds capacity in the following key areas:*

- > better informed and more participatory policy processes in health sector reform;*
- > more equitable and sustainable health financing systems;*
- > improved incentives within health systems to encourage agents to use and deliver efficient and quality health services; and*
- > enhanced organization and management of health care systems and institutions to support specific health sector reforms.*

*PHR advances knowledge and methodologies to develop, implement, and monitor health reforms and their impact, and promotes the exchange of information on critical health reform issues.*

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# Abstract

Numerous researchers have found it difficult to obtain substantive data about the impact of the polio eradication campaign on health systems. The USAID-funded Partnerships for Health Reform (PHR) Project, via its immunization financing initiative, has conducted a study on the impact of the financing of the polio eradication campaign on the financing of routine immunization programs.

PHR's study examines the sources and uses of funds for routine immunization programs and polio eradication campaign activities in order to make comparisons among them as well as investigate trends in funding from different sources over the past five years. In addition, the study assesses the effect of the campaign on resource availability for specific cost categories of the national immunization program and the health system. For example, specific cost information is available for cold chain equipment, personnel time spent on polio-related activities, and acute flaccid paralysis surveillance activities.

The study draws upon data from three countries: Bangladesh, Morocco, and Côte d'Ivoire. Information has been collected on costs and expenditures of routine immunization programs and polio eradication activities as well as trends over time in program expenditures for each. Data were also collected on trends in funding for the national immunization program, polio eradication activities, and the entire health sector as well as for specific cost categories.

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# Table of Contents

Acronyms .....	ix
Acknowledgments .....	xi
Executive Summary.....	xiii
1. Introduction.....	1
2. Background .....	3
3. Methods .....	5
4. Data Collection .....	7
5. Case Studies .....	9
5.1 Bangladesh.....	9
5.2 Côte d'Ivoire.....	14
5.3 Morocco.....	19
6. Summary and Conclusions .....	23
Annex: Bibliography.....	25

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## List of Tables

Table 1. Immunization Coverage in Bangladesh, 1989-1998 (percent) .....	9
Table 2. Annual Expenditures/Budget and Percent Increase for NIDs, Routine EPI, and the Health and Population Program in Bangladesh (\$000s).....	11
Table 3. Funding Trend for Routine EPI and NID Activities in Bangladesh.....	12
Table 4. Vaccination Coverage in Côte d'Ivoire for BCG, DTP 3, and Measles for Children 0-11 Months: 1990-1998.....	14
Table 5. Expenditures on NIDs, Routine EPI, and Health Budget in Côte d'Ivoire, 1995-98.....	15
Table 6. Expenditures on the Côte d'Ivoire Polio Eradication Campaign by Source and Use of Funds, 1998.....	15
Table 7. Sources of Finance for the Côte d'Ivoire Polio Eradication Campaign.....	16

Table 8. Sources of Finance for Routine EPI by Use in Côte d'Ivoire, 1998.....	17
Table 9. Sources of Financing for Routine EPI in Côte d'Ivoire, 1996-1999.....	17
Table 10. Equipment Purchased for the Cold Chain in Côte d'Ivoire.....	19
Table 11. Immunization Coverage in Children 12-23 months in Morocco, 1987-1997.....	19
Table 12. Sources of Funding for the NIDs in Morocco, 1993-1998 .....	20
Table 13. Trends in GOM Expenditures for Routine EPI, 1994-1997.....	21
Table 14. Ministry of Health Investment Budget by Financing Source, 1994-97/98. Disbursements in Millions of Moroccan Dirhams (% of total) .....	22

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## List of Figures

Figure 1. Percentage of Total Health Sector Expenditures, 1993-1998 .....	10
Figure 2. GOB Contributions to Routine EPI and NIDs.....	13
Figure 3. GOCI Expenditures on Routine EPI and Polio .....	
Eradication Activities, 1996-1999 (US\$000s) .....	18
Figure 4. GOM Contributions to Routine EPI and NIDs, 1994-1997.....	22



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# Acronyms

<b>BCG</b>	Bacille Calmette-Guerin Vaccine (tuberculosis vaccine)
<b>CDC</b>	U.S. Centers for Disease Control and Prevention
<b>DPT</b>	Diphtheria, Pertussis, Tetanus
<b>EPI</b>	Expanded Program on Immunizations
<b>EU/FED</b>	European Union Development Fund
<b>GOB</b>	Government of Bangladesh
<b>GOCI</b>	Government of Côte d'Ivoire
<b>GOM</b>	Government of Morocco
<b>IEC</b>	Information, Education, and Communication
<b>KFW</b>	<i>Kreditanstalt für Wiederaufbau</i> (German Development Bank)
<b>MOH</b>	Ministry of Health
<b>MOHFW</b>	Ministry of Health and Family Welfare (Bangladesh)
<b>NID</b>	National Immunization Day
<b>OPV</b>	Oral Polio Vaccine
<b>PEI</b>	Polio Eradication Initiative
<b>PHR</b>	Partnerships for Health Reform Project
<b>SIDA</b>	Swedish International Development Agency
<b>TT</b>	Tetanus Toxoid
<b>UNICEF</b>	United Nations Children's Fund
<b>USAID</b>	United States Agency for International Development
<b>WHO</b>	World Health Organization



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# Acknowledgments

This three-country case study was supported by the Child Survival Division of the United States Agency for International Development's (USAID) Office of Health and Nutrition and coordinated by the Partnerships for Health Reform (PHR) to assess the impact of the financing of the polio eradication campaign on the financing of national immunization programs.

Implementation of the study in each country would not have been possible without the support of the ministries of health, national immunization program coordinators, and collaborating agencies. We would like to thank Marty Makinen of PHR for his valuable comments on the paper as well as Bruce Aylward and Jean-Marc Olive of the World Health Organization for their observations. We would finally like to express our appreciation for the continued support and encouragement of Ellyn Ogden of USAID's Child Survival Division.



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# Executive Summary

Considerable controversy exists about whether the polio eradication campaign, led by the World Health Organization (WHO), UNICEF, and a number of bilateral donor agencies, has had positive or negative effects on longer-term health sector activities. Two new sets of studies have been carried out by WHO and UNICEF to assess the impact of the eradication campaign on health systems in African and Asian countries. These studies have had difficulties obtaining information about the impact of the polio eradication campaign on the financing of longer-term health programs. Since the Partnerships for Health Reform (PHR), a United States Agency for International Development (USAID) project, was conducting country immunization financing studies via its immunization financing initiative, USAID and WHO requested that it conduct an assessment of the impact of the polio eradication campaign on financing of routine activities of the Expanded Program on Immunization (EPI) and the health system as a whole.

The purpose of this study is to assess the impact of the polio eradication campaign (formally, the Polio Eradication Initiative, PEI) on the financing of national immunization programs and, to the extent possible, the health system as a whole, using three case studies. This study examines whether tradeoffs occur when governments, donors, and international organizations fund PEI. It examines whether funding is reduced for other activities such as routine immunization programs in order to shift funding to the PEI, or whether the funding remains the same or increases for both activities.

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## Methods

The effect of the polio eradication campaign on the financing of routine immunization activities and health systems is analyzed in terms of two dimensions: 1) short-term effects on funding of national immunization programs, and 2) long-term effects on financing of those programs as well as on the broader health systems.

The short-term effects of the PEI on financing of routine EPI are examined using trend analysis. First, the funding of routine EPI and health sector activities is examined and compared with funding for national immunization days (NIDs) to determine whether a decrease in the rate, or a decline in the rate of increase of funding has occurred when polio eradication activities were introduced. In addition, the changes over time of funding from specific sources is investigated to determine whether these individual flows have increased or decreased.

For each of the three countries, this study examines how the government allocates its national immunization program resources (including contributions of health personnel) to the routine EPI and to polio eradication activities. It also investigates the level of government contributions to the polio eradication campaign and the possible long-term impact on financing for the immunization program.

Long-term financing possibilities are discussed in terms of findings from information on types of contributors as well as discussions with key informants in the case study countries.

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## Data Collection

The data collection took place in three countries: Morocco, Bangladesh, and Côte d'Ivoire. These countries were chosen because certain data had already been collected from them for PHR's immunization financing studies (Kaddar et al. 1999, Levin et al. 1999, Kaddar et al. 2000). They had been chosen for those broader financing studies because they all have a mix of financing strategies, they are in different geographical regions, and two of the three use a financing mechanism, UNICEF's Vaccine Independence Initiative, to purchase vaccines. These countries thus are not representative of other countries in Africa, Europe, and Asia.

The study collected information on sources of financing—national governments, local (regional) governments, donors, international organizations, and the private sector—and uses of funds—both recurrent and capital expenses—for routine immunization programs and polio eradication activities by the governments, donors, and other contributors. The funds are disaggregated by type of expenditure such as personnel, supplies, transport, and equipment.

The data on contributions of the central government, donors, and international donors were collected from ministries of health, donor databases (e.g., the Swedish International Development Agency, SIDA), and projects that support non-governmental organizations. In addition, separate surveys were initiated when the data on contributions were not available. For example, a survey of municipalities was conducted to obtain data on contributions of local governments towards the national immunization program in Bangladesh.

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## Findings

### Bangladesh

The Bangladesh case was the first to be examined. The study looked at the change in total annual expenditures from 1993-1997 for NIDs, routine EPI, and the health and population budget to determine whether they had been affected by the introduction of polio eradication activities. The percentage increase in expenditures from 1993 to 1998 was similar for routine EPI and the health and population budget, about 11-12 percent, and only 1.6 percent for NIDs.

Then the trends in funding for NIDs and routine EPI by source were examined for the same years. For NIDs, funding levels stayed about the same for most funders; exceptions were the government of Bangladesh (GOB), which decreased its contribution over time, and the government of Japan, which increased its donations during the last three years of the period.

Funding sources for the routine EPI included the GOB, UNICEF, USAID, WHO, the World Bank loan, the government of Japan, and SIDA. Two sources, the GOB and the World Bank, increased their contributions over time. The government of Japan started to contribute to the EPI in 1996/97. USAID and WHO funding fluctuated from year to year, but on average remained about the same. The findings suggest that funding from specific donors for routine EPI has not been adversely affected by the start-up of polio eradication activities during this period in Bangladesh.

### Côte d'Ivoire

The second country case study examined the impact of polio eradication on financing in Côte d'Ivoire. NIDs, routine EPI, and the health budget were compared over the period of 1996-1999. The expenditures for NIDs increased more quickly than expenditures for the other two programs: The average percent increase for NIDs was 21.4 percent (1996-1998) whereas

expenditures on the routine EPI expenditures and the health budget increased at similar, lower levels, 9.9 percent and 11.3 percent, respectively. As in Bangladesh, the funding for the national immunization program (routine EPI and NIDs) increased at a faster rate (12.8 percent) than the health budget as a whole (11.3 percent).

An examination of the government's contributions for polio eradication and routine EPI revealed that it is gradually increasing its funding for both activities, although the years in which the largest increases take place tend to vary. In 1998, it increased its contribution to routine EPI by 10 percent, and, in 1999, it increased its contribution to polio eradication by 33 percent.

As in the case of Bangladesh, some donors provide funding for either routine EPI or polio eradication activities. Rotary International, the government of Japan, and USAID only finance polio eradication activities and not routine EPI. In contrast, *Kreditanstalt für Wiederaufbau* (KfW), a German development bank, funds routine EPI activities exclusively.

Sources of financing that contribute to both routine EPI and NIDs are the government, as mentioned above, UNICEF, and WHO. None appears to have decreased its contribution to either component of the immunization program over time.

As part of its financing for polio eradication, the government of Japan has donated \$1,166,000 for equipment for the cold chain, a contribution that will also strengthen the routine EPI program and other health sector activities.

## **Morocco**

The third country program examined was Morocco. Morocco differs from other countries in that it was already conducting NIDs when the polio eradication campaign was started as a means of supplementing routine immunization activities, especially in rural areas. Because of the use of this strategy, the additional costs associated with polio eradication were lower than in other countries.

The Moroccan government has increased its contributions so that it now funds most of the costs of routine EPI and the NIDs. It purchases all vaccines and supplies with a World Bank loan.

Because the government funds most of the costs of NIDs, the long-term implication is that the additional resources it generates for polio eradication vaccines can be transferred to another long-term health program, such as EPI, once the polio eradication campaign is finished.

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## **Conclusions**

### **Current Financing**

Some of the main findings from this assessment of financing of polio eradication activities, routine EPI, and health budgets are the following:

- > Three of the main funders of the polio eradication campaign in these countries—Rotary International, the government of Japan, and the U.S. Centers for Disease Control and Prevention—are focusing most of their resources on this campaign. In only one case was funding also provided for routine EPI—Japan's financing of measles vaccine in Bangladesh.

- > Other donors fund only routine EPI activities, for example, KFW in Côte d'Ivoire, SIDA in Bangladesh.
- > The governments in each of the three countries, as well as USAID, UNICEF, and WHO, fund both activities.
- > The ministry of health (MOH) in each country has taken different approaches to funding of routine EPI and polio eradication activities:
  - ↑ In Bangladesh from 1993/4-1997/8, the Ministry of Health and Family Welfare increased its contributions to the routine EPI program but decreased its funding for polio eradication activities.
  - ↑ In Côte d'Ivoire, the MOH contribution increased gradually both for routine EPI activities and the polio eradication campaign.
  - ↑ In Morocco, the MOH, with assistance from a World Bank loan, has increased its funding for both activities so that it now finances most of the costs of routine EPI and the polio eradication campaign.

The funding for routine EPI activities has increased in each of the three countries. Government funding for routine EPI activities has increased since the polio eradication activities were introduced. In Côte d'Ivoire and Morocco, the governments have also increased their contributions to the polio eradication campaign, suggesting that no tradeoffs were made between routine and polio eradication programs; instead, the governments have increased their overall financing of routine EPI and polio eradication. In the case of Bangladesh, the government chose to concentrate its limited resources on routine EPI rather than on polio eradication activities. This is an appropriate choice for the government since the routine coverage appears to be declining.

Most donors have focused their funding on either routine EPI or polio eradication activities, and did not need to make any tradeoffs regarding their funding. Only a few organizations—one donor, USAID, and two international organizations, WHO and UNICEF—fund both activities. None appears to be reducing its funding for routine EPI activities, with the exception of UNICEF in Bangladesh.

It is likely, however, that there were opportunity costs in choosing to support polio eradication activities in each country rather than making improvements to the routine EPI program; for example, the funds could have been used to support the introduction of “new” vaccines such as Hepatitis B, to provide more social mobilization activities for routine EPI.

On the other hand, it is possible that these other activities could not have attracted the additional funding that the high-profile polio eradication campaign did, and they would not have had sufficient financing.

This study has concentrated on funding for routine EPI and cannot draw conclusions regarding the impact of polio eradication on the financing of other health services in these three countries. It should be noted, however, that the funding for national immunization programs (routine EPI and polio eradication activities) has been increasing at a higher rate than for the health budget as a whole. It is possible that some tradeoffs in the provision of funding for immunization activities vs. other health activities are being made. However, without more information, no conclusions can be drawn.



## **Long-term Financing Prospects**

The long-term financing prospects can be divided into two types: 1) government funding for polio eradication activities, and 2) funding of donors and international organizations.

In two of the three countries in the study, Côte d'Ivoire and Morocco, the funding for polio eradication activities increased during the time period investigated; this is particularly true for Morocco. One possibility is that, after the polio eradication campaign is finished, the additional funding can be reallocated to the national immunization program and be used to strengthen it.

Since much of the additional funding for polio eradication activities is from donors that provide financing exclusively for this activity, the long-term prospects of obtaining funding from them is not clear. The government of Japan could choose to shift its funding from polio eradication to routine EPI, an activity it does fund in some countries, but it is not clear that they will do so. It is also possible, however, that funders such as Rotary International and international organizations will shift their funding to another disease eradication campaign such as the one for measles.

Finally, it should be noted that some of the funding for the polio eradication campaign has been for the capital costs of financing equipment and vehicles. These are items that can be used by the routine EPI program and other health services for several years.



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# 1. Introduction

Numerous researchers have found it difficult to obtain substantive data about the impact on the financing of health systems of the polio eradication campaign, led by the World Health Organization (WHO), UNICEF, and a number of bilateral donors. Via its immunization financing initiative, the Partnerships for Health Reform (PHR), a United States Agency for International Development (USAID) project, is undertaking a study on the financing of the polio eradication campaign (formally, the Polio Eradication Initiative, PEI). The purpose of this study is to determine the impact of the eradication campaign on the financing of national immunization programs and, to the extent possible, the health system as a whole.

This study examines whether tradeoffs occur when governments, donors, and international organizations provide funding for the PEI. Do they reduce their funding for other activities, such as routine immunization programs, in order to shift funding to the PEI? Or are they able to provide funding for both activities? Are governments providing funding for PEI or do they assume there are sufficient resources from donors and multilateral organizations, and concentrate on providing resources for other activities such as routine Expanded Program on Immunizations (EPI)? It is also important to ascertain whether the increased knowledge about the benefits of immunizations from the PEI is attracting new funding for the national immunization program and other health sector activities and that their long-term funding prospects may be improving. This study seeks to determine the impact of the polio eradication campaign on the financing of long-term programs of the health sector, such as the routine EPI program.



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## 2. Background

The polio eradication campaign is at different stages in different regions of the world. For example, Latin America has certified eradication and has remained polio-free, whereas Africa continues to have case outbreaks in areas where the wild polio virus exists. The Western Pacific and European regions with a few exceptions are nearing elimination of endemic transmission. WHO estimates that the global campaign towards eradication will reach its peak of activity in 1999-2001. During this critical period, the biggest challenge to polio eradication will result from the shift in focus from logistical strategies to financial strategies. WHO estimates that US\$ 700 million<sup>1</sup> will be necessary for eradication efforts during the peak period. Although external support from donors is substantial, additional resources will be required to cover projected shortfalls in funding.

What impact do resource allocation decisions for eradication campaigns have on the provision of routine services? Critics of eradication campaigns have argued that eradication activities divert resources and undermine the efforts to maintain and strengthen routine health services. A study conducted by Taylor, Cutts, et al. (1997) asserts that polio eradication does not contribute to the development of health systems in the least developed countries. Others feel that positive impacts do exist in terms of strengthening surveillance systems and building laboratory capacity (Sutter and Cochi 1997). A study by Tangermann, Costales, et al. (1997) concluded that the development and strengthening of acute flaccid paralysis surveillance for eradication efforts in the Philippines helped to improve surveillance for other EPI diseases.

The Taylor Commission, funded by the Pan American Health Organization (PAHO), conducted a detailed qualitative assessment of polio eradication strategies in six Latin American countries in the mid-1990s. Its findings indicated both positive and negative results of the eradication on strengthening of health systems in the Americas (PAHO 1995). Positive impacts on routine programs resulted from an emphasis on social mobilization activities and the focus on improving management. The negative impact, found in the poorer countries, was that targeting of immunization programs diverted resources away from routine services especially during mass campaigns (PAHO 1995).

Two new sets of studies have been carried out by WHO and UNICEF to assess the impact of the eradication campaign on health systems. The purpose of the WHO study was to develop and test quantitative and qualitative methods for assessing the impact of polio eradication on health systems. The case studies examined system variables related to the reform context and health system capacity to study the relationship between eradication and health system development (Mogedal et al. 1998). The first case study in Tanzania found that little disruption and deviation of resources from the health system could be documented. It was equally difficult to find clear evidence of positive impact on the health system when approached systematically (Mogedal et al. 1998).

Both the WHO and UNICEF studies found it difficult to collect financing information specific to the eradication campaign. For example, the WHO study (Mogedal et al. 1998) stated that there was insufficient retrospective data available to determine the impact of resource decisions. Since PHR was conducting immunization financing studies via its immunization financing initiative, USAID and

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<sup>1</sup> Amounts in this report are in U.S. dollars unless otherwise noted.

WHO requested that it conduct an assessment of the impact of the polio eradication campaign on financing of routine EPI activities and the health system as a whole.

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## 3. Methods

The effect of the polio eradication campaign on the financing of routine immunization activities and health systems is analyzed in terms of two dimensions: 1) short-term effects on funding of national immunization programs, and 2) long-term effects on financing of those programs as well as on the broader health systems.

The short-term effects of the PEI on financing of routine EPI are examined using trend analysis when this information is available. First, the funding of routine EPI and health sector activities is examined and compared with funding for national immunization days (NIDs) to determine whether a decrease in the rate of funding for these activities, or the decline in the rate of increase of funding has occurred since polio eradication activities were introduced. In addition, the changes over time of funding from specific sources is investigated to determine whether these individual flows have increased or decreased in the same period.

The contributions (including of personnel) of the governments in each of these countries for routine immunization programs and NIDs are examined separately to assess how governments have allocated national immunization program resources to EPI and polio eradication activities. Importantly, the study also examined whether governments are making substantial contributions to the PEI and possible long-term effects on financing for their routine immunization program.

Long-term financing possibilities are discussed in terms of findings from information on types of contributors as well as discussions with key informants in the case study countries. Key informants such as ministry officials and donor representatives were asked their opinions on future possibilities for funding of routine EPI, future eradication campaigns, and other health activities in the case study countries.





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## 4. Data Collection

The data collection took place in three countries: Morocco, Bangladesh, and Côte d'Ivoire. These countries were chosen because data had already been collected from them for PHR's immunization financing studies (Kaddar et al. 1999, Levin et al. 1999, Kaddar et al. 2000). Specifically, they all have a mix of financing strategies, are in different geographical regions, and two of the three are using a financing mechanism, UNICEF's Vaccine Independence Initiative, to purchase vaccines.

The study collected information on source and uses of funds for routine immunization programs and polio eradication activities by the governments, donors, and other contributors. The sources of financing include the following: national governments, local (regional) governments, donors, international organizations, and the private sector. The uses of funds are disaggregated by type of expenditure such as personnel, supplies, transport, and equipment.

Expenditure information is divided into recurrent and capital expenses. Recurrent expenditures are those that take place within a time period of less than one year, such as personnel salaries and supplies. Capital expenditures are for items that last longer than a year, such as equipment and land.

The data on contributions of the central government, donors, and international donors were collected from ministries of health, donor databases (e.g., the Swedish International Development Agency, SIDA), and projects that support non-governmental organizations. In addition, separate surveys were initiated when the data on contributions were not available. For example, a survey of municipalities was conducted to obtain data on contributions of local governments towards the national immunization program in Bangladesh.

The calculation of personnel time was undertaken through multiplying the number of days and percent of total work time spent on the activity by salary of the type and number of workers. For example, in Bangladesh, health assistants were estimated to spend 40 percent of their time on routine EPI activities and 8 percent of their time on national immunization days (22 days for two NIDs), thus, their salaries were multiplied by 0.40 to get the cost of their time spent on this activity.

Interviews were conducted with a large number of key informants to obtain in-depth information on the immunization programs and long-term prospects for financing.



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## 5. Case Studies

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### 5.1 Bangladesh

The first case study that is presented is Bangladesh. This country is an interesting case study since the government now finances more than 40 percent of the costs of its routine Expanded Program on Immunization and purchases one vaccine through the Vaccine Independence Initiative (Levin et al. 1999).

Bangladesh's EPI was launched in 1985. With financial assistance from bilateral and multilateral donors, especially SIDA and UNICEF, the program aimed to achieve 80 percent coverage of children under one year of age by 1990. The plan for the program was to gradually expand service delivery so that all *thanas* and unions<sup>2</sup> were covered. As part of the program, workers in rural areas provided immunizations from eight outreach sites in each ward during a month. This expansion also required that improvements take place in the cold chain, logistics, training, communications, and information systems.

Immunization coverage was expanded to 190 of 460 thanas in 1989, and the national coverage for DPT3/OPV3 (diphtheria, pertussis, tetanus; oral polio vaccine) increased to 22 percent from 2 percent in 1985 (Table 1). By 1991, a coverage survey found that the coverage for DPT3/OPV3 had increased threefold to 68 percent in the first year of life. In 1995, coverage for DPT3/OPV3 had increased to 73 percent and 54 percent of children were fully immunized by the age of one year. However, coverage has declined slightly since then.

**Table 1. Immunization Coverage in Bangladesh, 1989-1998 (percent)**

Vaccine	1989	1991	1993	1995*	1998
BCG**	NA	89	89	94	91
DPT3/OPV3	22	68	63	73	68
Measles	NA	NA	59	61	62
Fully Immunized Child***	NA	NA	50	54	54
TT2**	NA	NA	80	88	86

Source: Ministry of Health and Family Planning, 1998

\*Polio eradication activities begun through NIDs.

\*\*BCG=Bacille Calmette-Guerin vaccine (tuberculosis vaccine); TT=tetanus toxoid

\*\*\*Fully immunized child is the number of percentage of children receiving valid doses of immunizations (3 DPT shots, 4 OPV, 1 BCG, and 1 measles) by the age of one year.

The Bangladesh national immunization program began polio eradication activities in 1995. National immunization days were first conducted in March and April of 1995 in order to coordinate with India's NIDs. During the NIDs, OPV and Vitamin A are administered to children under the age

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<sup>2</sup> Thanas are administrative units in Bangladesh with population sizes of approximately 250,000 persons. Unions are smaller administrative units with population sizes of approximately 20,000 to 40,000 persons.

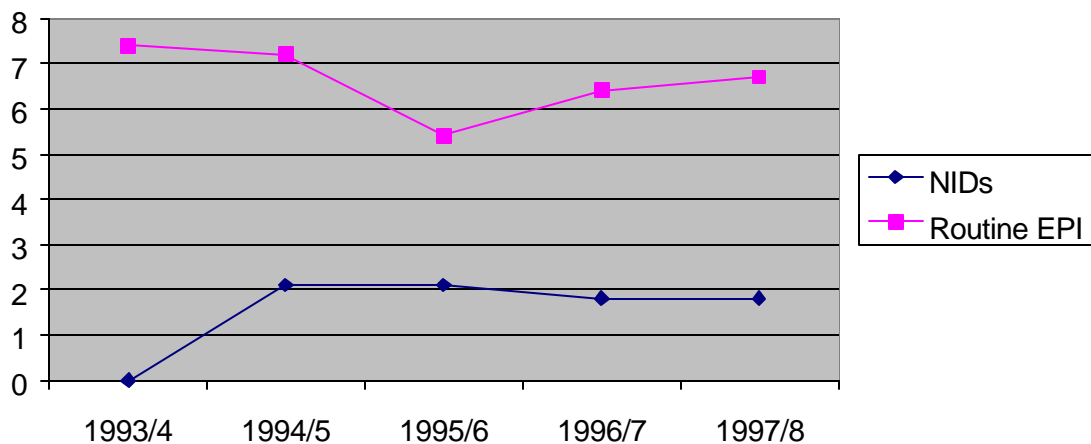
of five. Two NIDs have been conducted in each year in December and January. Coverage during the NIDs has been high, although it declined slightly during the fourth round, held in December 1997 and January 1998.

### Funding for the Bangladesh National Immunization Program

In order to determine how funding for routine immunization activities were affected by the introduction of the polio eradication campaign, the expenditures on NIDs, routine EPI activities and the percent of total health sector expenditures were examined. The findings of the analysis on Bangladesh indicated that 23 percent of the total costs of the national immunization program (\$8.534 million out of \$37.48 million) in 1997/98 was spent on NIDs. The most expensive cost component of NIDs was OPV (73 percent).

The expenditures on the EPI as a percentage of total expenditures on the health sector<sup>3</sup> were initially 7.4 percent of the total budget of the Ministry of Health and Family Welfare (MOHFW). They dropped to 5.4 percent in 1995/96 and then gradually increased to 6.7 percent of the total in 1997/98 (Figure 1). The expenditures on NIDs began at 2.1 percent of the MOHFW budget in 1994/95 and decreased to 1.8 percent in 1996/97.

**Figure 1. Percentage of Total Health Sector Expenditures, 1993-1998**



The trends in change in total expenditures for NIDs were then compared with the budget for the health and population program and actual expenditures for the routine program for the years 1993/94-1997/98 (Table 2).

The results indicated that expenditures for routine EPI and the health and population program budget were increasing at an average annual percent increase of between 11 and 12 percent, despite some fluctuation from year to year. The health and population budget did increase slightly more than expenditures on routine EPI. However, the percent increase in expenditures on the national immunization program including both routine EPI and NIDs (18.7 percent), was greater than that of the health and population program budget.

<sup>3</sup> "Mop-up" activities did not begin until 1998/99.

**Table 2. Annual Expenditures/Budget and Percent Increase for NIDs, Routine EPI, and the Health and Population Program in Bangladesh (\$000s)**

	1993/94	1994/95	1995/96	1996/97	1997/98	Average
NIDs Expenditures	0	7,104.6	7,601.7	7,306.2	7,430.9	
% Annual Increase in NIDs	NA	NA	7.0%	-3.9%	1.7%	1.6%
Routine EPI Expenditures	19,833.2	24,869.5	19,292.0	25,379.7	27,826.2	
% Annual Increase in EPI	NA	25.4%	-22.4%	31.6%	9.6%	11.1%
Expenditures on EPI + NIDs	19,833.2	31,974.1	26,893.7	32,685.9	35,257.1	
% Annual Increase in EPI + NIDs	NA	61.2%	-15.9%	21.5%	7.9%	18.7%
Health and Population Program Budget	268,100	343,400	357,311	399,591	412,574	
% Annual Increase in Budget	NA	28.1%	4.1%	11.8%	3.2%	11.8%

*Note:* The data has been converted to U.S. dollars to account for inflation that may have occurred in Bangladesh during this period, while little occurred in the United States.

The expenditures on routine EPI increased more than did those for NIDs, which only increased at an annual average of 1.6 percent.<sup>4</sup> During the initial year of NIDs (1994/95), there were increases of 25-30 percent in both the routine EPI expenditures and the health and population budget. The following year (1995/96), a decrease in funding for routine EPI and a small increase for the health and population budget occurred. A large increase in funding again occurred in those programs in 1996/97 (32 percent and 12 percent, respectively), followed by smaller increases (9.6 percent and 3.2 percent) the following year.

The fact that overall the routine EPI activities and the health and population budget as a whole increased by more than 11 percent while the expenditures on NIDs increased less than 2 percent suggests that the funding for these activities was not unduly affected by the introduction of the polio eradication campaign. It is not known, however, what the funding would have been without the introduction of polio eradication activities.

Next, the trends in funding for NIDs and routine EPI by source were examined. The sources of funding for NIDs in 1997/98 included the government of Bangladesh (GOB) (21 percent), local governments (2.3 percent), and donors and international organizations (76.7 percent): the government of Japan, Rotary International, UNICEF, WHO, the U.S. Centers for Disease Control and Prevention (CDC), and USAID. From 1993 to 1997, the funding from these sources stayed about the same for

<sup>4</sup> These numbers do not reflect the additional expenditures that were incurred a year later for the "mop-up" activities that started in 1998/99.

most funders (Table 3). However, the GOB decreased its contribution over time and the government of Japan increased its donations during the last three years of this period.

**Table 3. Funding Trend for Routine EPI and NID Activities in Bangladesh**

	1993/94	1994/95	1995/96	1996/97	1997/98
Funding for Routine EPI					
GOB	9,329,550	16,657,475	15,260,176	16,387,841	17,676,457
World Bank	2,876,250	4,872,000	2,989,713	2,414,773	9,342,130
Local Subtotal	12,205,800	21,529,475	18,249,889	18,802,614	27,018,587
UNICEF	7,258,575	3,301,200	1,065,148	5,986,409	179,000
USAID	265,675	300,000	379,623	278,068	242,500
WHO	134,750	200,000	96,498	357,955	100,217
Japan	0	0	0	475,000	494,348
SIDA	4,203,000	2,945,000	1,480,000	4,432,955	NA*
Donor Subtotal	11,862,000	6,746,200	3,021,269	11,530,387	1,016,065
Total	24,067,800	28,275,675	21,271,158	30,333,001	28,034,652
Funding for NIDs					
GOB	0	3,130,300	1,113,642	1,003,818	723,130
UNICEF	0	1,193,075	349,008	312,500	343,043
CDC**		315,093	315,093	315,093	735,000
USAID	0	121,250	165,320	198,864	125,217
WHO	0	603,750	603,723	572,045	4,565
Rotary Intl.	0	1,637,800	1,601,763	1,497,727	1,608,261
Japan	0	0	3,281,190	3,213,523	4,437,391
Donor Subtotal	0	3,870,968	6,316,097	6,109,752	7,253,477
Total	0	7,001,268	7,429,739	7,113,570	7,976,607

*Note:* The data have been converted to U.S. dollars to account for inflation that occurred in Bangladesh during this period, while little or no inflation occurred in the United States.

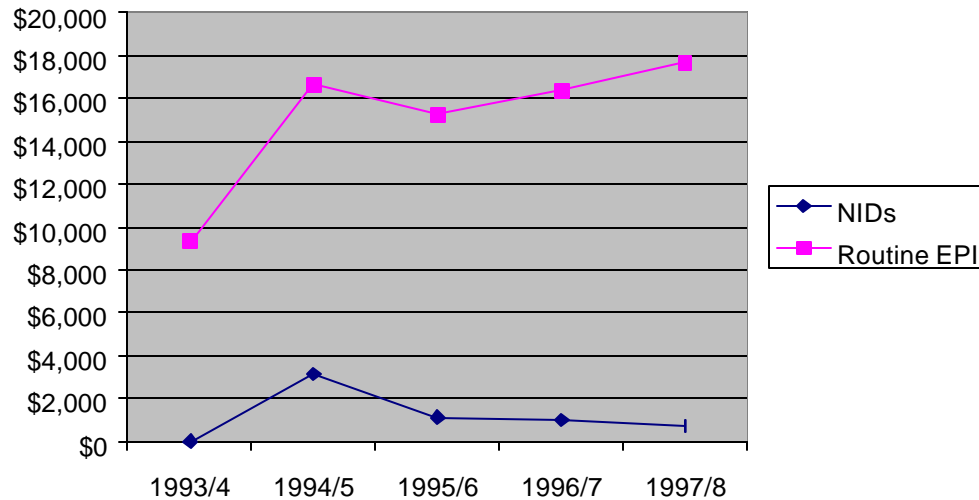
\* The contribution of these donors towards routine EPI activities could not be determined because they were contributing to pooled funding of the Bangladesh Health and Population Sector Program.

\*\* Since CDC's funding for NIDs was contributed through UNICEF, it is not known whether double-counting has occurred for this funding.

The sources of funding for routine EPI include the following: the GOB, UNICEF, USAID, WHO, the World Bank, the government of Japan, and SIDA. The GOB has increased its funding through two sources over time: direct contributions and the World Bank loan. In addition, a new funder, the government of Japan, started making contributions to the routine EPI program in 1996/97, possibly as a result of familiarity with the program due to NIDs. The funding for routine EPI from USAID and WHO has fluctuated from year to year, but has on average remained about the same. UNICEF has decreased its funding for the program over time. One other donor, SIDA, changed its mechanism of funding over time to that of pooled funding under the Health and Population Sector Programme and its contribution, via the GOB funding of the health sector, cannot be quantified.

Figure 2 shows the trend of government funding for routine EPI and NIDs.<sup>5</sup> The figure indicates that, although there was a decline in funding for routine EPI in 1995/96, it generally increased. The GOB's contributions towards polio eradication, on the other hand, decreased over time.

**Figure 2. GOB Contributions to Routine EPI and NIDs**



In general, the funding for routine EPI activities from specific sources has increased or stayed the same during this period. The only case where a contribution has decreased for routine EPI but stayed the same for NIDs is UNICEF. Government of Japan contributions to routine EPI activities occurred after this donor had started contributing towards the polio eradication campaign and may be associated with its involvement in the campaign. The findings suggest that funding from specific donors for routine EPI has not been adversely affected by the start-up of polio eradication activities during this period.

The long-term prospects for financing of routine EPI and health systems have not changed very much since the advent of the NIDs. The two donors that did not fund routine EPI activities but now provide funds for polio eradication activities are Rotary International and the government of Japan. Rotary International has an exclusive interest in providing funding for polio eradication activities and other specific programs such as AIDS Education (Rotary International 1999). It is unlikely to become a funder for other EPI activities. The government of Japan has been providing some funding for routine EPI since 1995/96. However, during interviews with staff of the Japan International Cooperation Agency in Dhaka in February 1999, it was stated that they plan to end their contribution after a few more years.

<sup>5</sup> The estimate includes the contribution of health personnel time as well as expenditures on supplies, transport, and purchase of DPT vaccine.

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## 5.2 Côte d'Ivoire

The second case study is Côte d'Ivoire. The Côte d'Ivoire national immunization program began in 1978 in rural areas. It was not until 1987 that a national vaccination campaign was organized and played a significant role in quickly raising the national coverage rates. The national immunization program lacked leadership after the 1987 campaign and coverage rates decreased substantially. In 1995, the Ministry of Health created the office of the executive director of the National Immunization Program, which was in charge of the implementation and the follow-up of vaccination activities for the whole country. The new director developed a five-year plan for 1996-2000. In addition, in 1996, the country adopted single-use injection needles and launched the national immunization days to help eradicate poliomyelitis.<sup>6</sup>

Table 4 shows the increases in immunization coverage that occurred after 1995. DTP3, for example, increased from 41 percent in 1995 to 64 percent in 1998.

**Table 4. Vaccination Coverage in Côte d'Ivoire for BCG, DTP 3, and Measles for Children 0-11 Months: 1990-1998**

Year	BCG	DTP3	Measles	Yellow fever
1990	43	33	39	NA
1991	65	54	57	NA
1992	51	49	54	NA
1993	53	50	52	37
1994	44	41	47	38
1995	49	41	57	44
1996*	68	55	65	53
1997	73	70	68	59
1998	71	64	66	57

The total cost of the national immunization program in 1998 was estimated to be \$9,121,776 (Kaddar et al. 2000). Of this total, the NIDs cost \$1,244,834 (13.6 percent of total costs), or \$0.08 per capita, while routine costs were \$7,876,942 (86 percent of total costs), or \$0.50 per capita.

The expenditures on NIDs, routine EPI, and the Côte d'Ivoire health budget are shown in Table 5. Unlike in Bangladesh, expenditures for NIDs increased fastest, by 24 percent in 1997 and 1998. Routine EPI expenditures increased more slowly than in Bangladesh, 4.4 percent, while the health budget increased at a similar level, 11.3 percent. The funding for the entire national immunization program increased at a slower rate (9.1 percent) than the health budget as a whole.

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<sup>6</sup> The NIDs take place for three days in February each year, with a second round held in March. More than 13,500 volunteers (mainly students) help organize and carryout the NIDs.



**Table 5. Expenditures on NIDs, Routine EPI, and Health Budget in Côte d'Ivoire, 1995-98**

	1995	1996	1997	1998	Average Annual % Increase
NIDs	NA	\$2,009,928*	\$2,442,816**	\$3,099,251	
% Increase	NA	NA	21.5%	26.9%	24.2%
Routine EPI	NA	\$7,224,331	\$7,409,570	\$7,876,942	
% Increase	NA	NA	2.6%	6.3%	4.4%
Routine EPI + NIDs		\$9,234,259	\$9,852,386	\$10,976,193	
% Increase		NA	6.7%	11.4%	9.1%
Health Budget	\$132,572,895	\$182,566,731	\$173,542,955	\$175,559,068	
% Increase		37.7%	-4.9%	1.2%***	11.3%

\*Assumed contribution of GOCI towards operational expenses were same as 1998

\*\*Assumed contribution of KFW of \$278,840

\*\*\*Assumed that donor contributions were similar to 1996 and 1997

The sources of financing for the polio eradication campaign in 1998 are shown in Table 6. The largest contributors were the government of Côte d'Ivoire (GOCI), Rotary International, the government of Japan, and USAID/CDC. The GOCI paid the costs of mobilization, transport, and personnel, and Rotary International funded a number of operational costs. Regarding capital costs, the government of Japan made a large contribution to the cold chain during this year.

**Table 6. Expenditures on the Côte d'Ivoire Polio Eradication Campaign by Source and Use of Funds, 1998**

	GOCI	Rotary		CDC/ USAID	Japan	WHO	UNICEF	TOTAL
		Intl.	Local					
Recurrent Costs								
Personnel	752,676*							752,676
Vaccines		219,493		624,928				855,031
Supplies							50,000	50,000
Transport	48,555	65,025						113,580
Short-term Training		19,925						19,925
Social Mobilization	151,331	58,525	12,948			5,676		228,480
Monitoring/Evaluation	3,875	6,564				3,441		13,880
Capital Costs								
Cold Chain Equipment					1,166,667			
Total	956,437	279,154	12,948	624,928	1,166,667	9,117	50,000	3,099,251
% of Total	30.8%	9.0%	0.4%	20.2%	37.6%	0.3%	1.6	100%

\*\$90,000 of personnel costs were for personnel other than MOH personnel.

Table 7 shows trends of financing by specific funders over time for polio eradication activities from 1996-1999. The contribution of the GOCI has been increasing, assuming that the contributions

towards operational costs were similar to those of 1998. While the contributions of a few donors, such as Rotary International, are decreasing over time, other donors appear to be stepping in to fill the gap when required.

**Table 7. Sources of Finance for the Côte d'Ivoire Polio Eradication Campaign**

	<b>GOCI</b>		<b>Rotary International</b>		<b>Japan</b>	<b>USAID through WHO</b>	<b>WHO/ CI</b>	<b>UNICEF</b>
	Operation	Personnel	Through WHO	Local				
1996	NA	610269	1,161,776	0	0	NA	NA	50,000
1997	NA	626,746	375,000	26,666	1,166,000*	NA	NA	50,000
1998	294,593	661,844	279,154	12,948	1,120,448**	624,928	9117	50,000
1999	711,250	691,627	1,529,303	8,571	NA***	298,808	8,164	281,225

\*Contribution for cold chain

\*\* NID vaccine and operating costs

\*\*\*According to WHO, funds from the government of Japan given in 1998 were used to purchase vaccines and operating costs in 1999.

For routine EPI, the three main sources of finance are the government of Côte d'Ivoire, budget subsidies of the European Union Development Fund (EU/FED), and KFW, a German development agency. The amounts contributed by different sources of finance to the program are shown in Table 8. All three of the main funders are providing funding for both operational and capital expenses.

As part of the structural adjustment of the Ivorian economy, a line item has been added to the health budget for vaccines and vaccine supplies. These line item commodities are being financed with the budget assistance of the EU/FED.

**Table 8. Sources of Finance for Routine EPI by Use in Côte d'Ivoire, 1998**

	<b>GOCI</b>	<b>EU/FED</b>	<b>KFW</b>	<b>WHO</b>	<b>UNICEF</b>	<b>TOTAL</b>
Recurrent Costs						
Personnel	5,130,535					5,130,535
Vaccines		1,224,221				1,224,221
Supplies		344,976				344,854
Transport	130,777					130,777
Short-term Training				27,821		27,821
Social Mobilization				37,017		37,017
Maintenance	100,000		72,756			172,756
Subtotal	5,361,312	1,569,075	72,756	64,838	0	7,067,981
Capital Costs						
Building Space	256,663	300,000				550,663
Vehicles			69,824			69,824
Equipment			182,474			182,474
Subtotal	256,663	300,000	247,833			808,961
<b>Total</b>	<b>5,617,975</b>	<b>1,869,075</b>	<b>325,054</b>	<b>64,838</b>	<b>0</b>	<b>7,876,942</b>
<b>% of Total</b>	<b>71%</b>	<b>24%</b>	<b>4%</b>	<b>1%</b>	<b>0%</b>	<b>100%</b>

The GOCI provides funding for personnel costs, transport, maintenance, and building space, the FED finances vaccines, supplies, and building space, and KFW provides funding for operational costs. Other sources of finance for the program include UNICEF (training personnel in 107 centers) and WHO (training).

Table 9 shows the trends in funding for routine EPI by source. The funding by the GOCI and budget assistance from the EU/FED have been increasing. In addition, the contributions of KFW appear to be increasing as well. The contributions of the other donors, UNICEF and WHO, has stayed about the same.

**Table 9. Sources of Financing for Routine EPI in Côte d'Ivoire, 1996-1999**

	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
GOCI	5,170,784	5,303,368	5,617,975	5,870,784
EU/FED	1,720,297	1,764,407	1,869,075	1,953,183*
Local Subtotal	6,891,081	7,067,765	7,487,050	7,823,967
KFW	299,180	306,851	325,054	7,280,000
WHO	NA	NA	27,821	29,073
UNICEF	34,070	34,944	37,017	11,859
Donor Subtotal	333,250	341,795	389,892	NA
<b>Total</b>	<b>7,224,331</b>	<b>7,409,570</b>	<b>7,876,942</b>	<b>15,144,899</b>

Note: NA=not available.

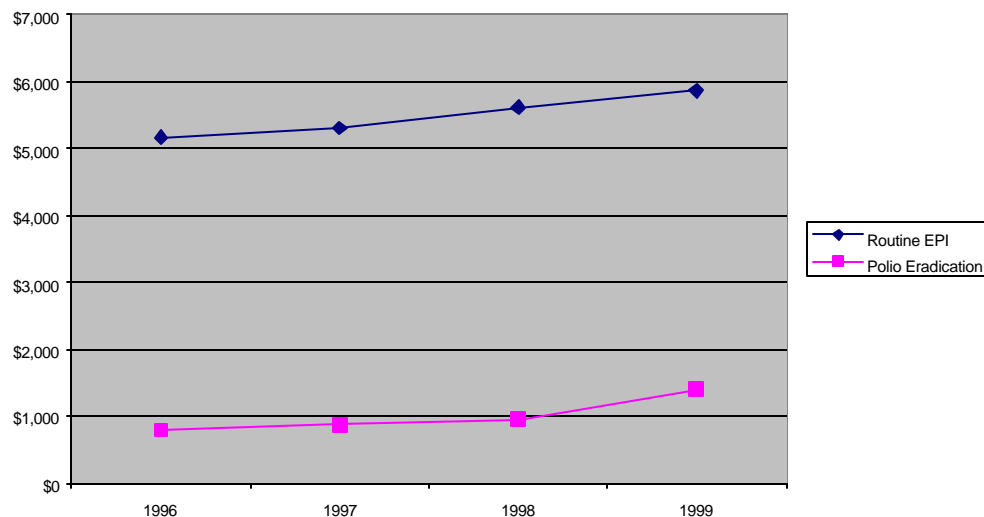
\* Blocked due to fraud.

As in Bangladesh, some of the sources of finance fund only routine EPI or polio eradication activities. Rotary International and the government of Japan contribute specifically to polio eradication activities and not routine EPI. On the other hand, another source of funding, KFW, contributes only to routine EPI activities and not polio eradication.

When the trends in contributions of the GOCI are examined, the government is gradually increasing its contributions to both. The GOCI has been increasing its contribution to routine EPI by an annual percentage rate of 5 percent, and, in 1999, it increased its contribution to polio eradication by 47 percent.

Other sources of financing that contribute to both routine EPI and NIDs are GOCI, USAID/UNICEF, and WHO. None appears to have decreased its contribution to either activity over time. The contribution of the GOCI to both routine EPI and NIDs has stayed the same or increased (Figure 3).

**Figure 3. GOCI Expenditures on Routine EPI and Polio Eradication Activities, 1996-1999 (US\$000s)**



### Financing of Renovated Cold Chain in Côte d'Ivoire

Interestingly, some of the funds contributed to the polio eradication campaign are being used to upgrade the cold chain and will provide long-term benefit to the national immunization program and other health sector activities. In 1998, the government of Japan made a contribution of approximately \$1,166,000, which paid for several refrigerators, freezers, and cold boxes (Table 10). The other donor that is funding many improvements to the cold chain is KFW (\$7,280,000),<sup>7</sup> as part of its contributions to routine EPI activities.

<sup>7</sup> Other donors that are providing some equipment and vehicles include WHO, UNICEF, and Belgian Cooperation.

**Table 10. Equipment Purchased for the Cold Chain in Côte d'Ivoire**

	Japan	KFW
Refrigerator	0	89
Refrigerator-freezer	80	440
Portable Freezers	561	0
Freezer	40	26
Vaccine Boxes	3,538	2,109
Cold Box	68	22
Refrigerator Trucks	0	4
Pick-up Trucks	0	50
Voltage Regulators	681	0
Cold Rooms	0	7

Source: Data from the Division of Equipment and Maintenance, Côte d'Ivoire Ministry of Health

The effect of the polio eradication campaign on the long-term financing prospects for Côte d'Ivoire is unclear. If the donors that have provided contributions uniquely towards the polio eradication campaign leave after it is finished, there will be no change in funding for other longer-term programs. On the other hand, the GOCI has gradually increased its contribution for polio eradication activities, and this additional funding could be available for other health sector activities after the PEI is finished.

### 5.3 Morocco

The third case study is on financing of the routine EPI and polio eradication activities in Morocco. This country has relatively high immunization coverage rates. Since it restructured its national immunization program in 1987, the percent of children age 1–2 receiving all EPI antigens has increased from 69.8 percent to 88.7 percent in 1997 (Table 11). The government finances much of the national immunization program with the assistance of a World Bank loan.

**Table 11. Immunization Coverage in Children 12-23 months in Morocco, 1987–1997**

Vaccine	DHS* 1987	DHS 1992	DHS 1995	PAPCHILD 1997**
BCG		93%	97.6%	
DPT3 and OPV3		79%	89%	
Measles		79%	88.5%	
Children receiving all EPI antigens (12-23 months)	69.8%	76%	85.1%	88.7%
TT2 (in pregnant women)		46%	53.6%	

Source: Kaddar et al. 1999

\* DHS = Demographic and Health Survey

\*\* Coverage data from the PAPCHILD survey are still preliminary.

Morocco differs from other countries in that it already was conducting NIDs before the polio eradication campaign was started as a means of supplementing routine immunization activities. This strategy was being used to improve immunization coverage, particularly in rural areas, since disparities in coverage rates existed.

The introduction of polio eradication activities took place in the early 1990s and occurred in phases. First, training and surveillance activities started in 1993. The campaign was then linked to the existing NIDs in 1995. During these NIDs, even though all six antigens were offered as before, the age group of children was extended to include all children under five years of age.

Since NIDs were already taking place, the additional costs associated with the polio eradication campaign included the costs of surveillance, cold chain needs for the additional vials of OPV, the additional vials of vaccine, personnel time spent in planning, and social mobilization activities.

The funding sources of each of these are the following (see also Table 12):

The purchase of additional vials of OPV was financed by Rotary International<sup>8</sup> in the first few years and then was gradually taken over by the government of Morocco (GOM). Of the three countries that are being compared in this study, only the in Morocco has the government been closely involved in the purchase of vaccines. In the other two countries, the vaccines for NIDs are purchased by donors. USAID has participated in the financing of OPV through providing the capitalization for the Vaccine Independence Initiative Revolving Fund for Morocco, enabling the government to purchase the polio vaccine using local currency.

The personnel time spent in planning and preparation for the campaign were paid by the GOM, social mobilization costs for the campaign by Rotary International, USAID, and UNICEF, and the costs of surveillance primarily through UNICEF, which contributed \$555,000 from 1992 to 1996. USAID and WHO have also paid for training and refresher courses in disease surveillance. The additional costs of the cold chain were financed by Rotary International and UNICEF. For example, Rotary purchased vaccine carriers and cold boxes for the NIDs.

**Table 12. Sources of Funding for the NIDs in Morocco, 1993-1998**

	<b>GOM Vaccines</b>	<b>GOM Personnel</b>	<b>GOM Total</b>	<b>UNICEF</b>	<b>Rotary International</b>	<b>USAID</b>	<b>Total Donors</b>
1993	NA	NA	NA	115,000 (surveillance)	603,865 (vaccines)	NA	718,865
1994	NA	NA	NA	115,000 (surveillance)	331,500 (vaccines)	NA	446,500
1995	336,000	1,855,029*	2,191,029	115,000 (surveillance)	15,000 (social mobilization)	NA	130,000
1996	742,600	1,910,680	2,653,280	121,000 (surveillance, social mob. etc. )	NA	64,000 (IEC**, meetings, etc.)	185,000
1997	930,520	1,968,000	2,898,520	NA	24,310 (cold chain equipment)	93,000 (IEC, meetings, etc.)	117,310
1998	1,131,200	2,027,040	3,158,240	NA	NA	57,000 (IEC, meetings, etc.)	57,000

Note: NA = information not available

\* Based on 1997 calculation and 3% rate of inflation

\*\* IEC = Information, education, and communication

<sup>8</sup> There is some confusion over whether the vaccines were financed by Rotary International via UNICEF, or by UNICEF.

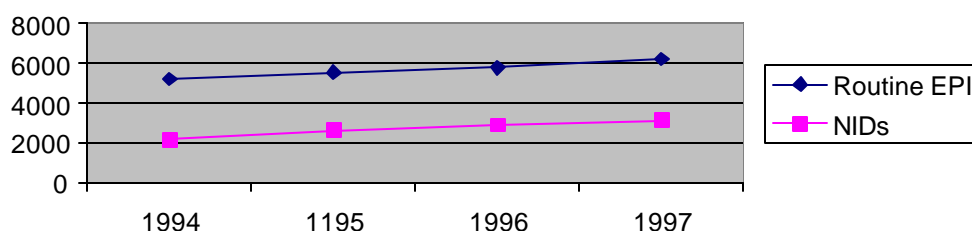
Although the trends in funding for the routine EPI program are not available, the trends of government funding can be investigated. Table 13 shows that the contribution of the GOM has been increasing for routine EPI, and the average percent increase (5.9 percent) is greater than the population growth rate of 1.9 percent.

**Table 13. Trends in GOM Expenditures for Routine EPI, 1994-1997**

	1994/95	1995/96	1996/97	1997/98
Personnel	4,347,400	4,477,802	4,612,136	4,750,500
Vaccines*	719,340	893,563	1,001,665	1,287,000
Maintenance/ Overhead	165,641	170,610	175,728	181,000
Total	5,232,381	5,541,975	5,789,529	6,218,500
% Increase	NA	5.9%	4.5%	7.4%

The GOM has gradually taken on a greater involvement in the financing of both the routine EPI activities as well as the polio eradication activities as can be seen in Figure 4.

**Figure 4. GOM Contributions to Routine EPI and NIDs, 1994-97**



Morocco is an interesting case since the government has increased its contributions so that it is now purchases all of the vaccines for both routine EPI and NIDs with the use of a World Bank loan. In this case, the national immunization program has increased its financial sustainability rather than decreased over time.

This additional commitment by the government is possible because it has access to loans from the World Bank. Table 14 indicates that the contribution of the GOM remained the same from 1994-96 and only increased in 1997/98. On the other hand, the use of the two loans from the World Bank and the African Development Bank has increased over time.

**Table 14. Ministry of Health Investment Budget by Financing Source, 1994-97/98. Disbursements in Millions of Moroccan Dirhams (% of total)**

<b>Financing Source</b>	<b>1994 Actual</b>	<b>1995 Actual</b>	<b>1996/97 Actual</b>	<b>1997/98 Budgeted</b>	<b>Four-Year Total</b>	<b>Percent Share (Avg.)</b>
State Budget	232.9 (78%)	192.5 (75%)	232.6 (73%)	310.2 (62%)	968.2	70.5%
World Bank	52.4 (18%)	16.6 (6.5%)	58.4 (18%)	108.1 (22%)	235.5	17.2%
African Development Bank	10.9 (4%)	47.3 (18.5%)	29.2 (9%)	81.7 (16%)	169.1	12.3%
Total Disbursements	296.2 (100%)	256.4 (100%)	320.2 (100%)	500.0 (100.0)	1,372.8	100.0%

Source Kaddar et al. 1999

It is possible that the government could have used the additional funds that it used for polio eradication to purchase instead other vaccines and supplies, such as Hepatitis B vaccines and disposable syringes, for the national immunization program. However, it is less likely that these resources could have been generated without high level support such as that of the international polio campaign and the royal family's strong support and advocacy of the NIDs.

Of the major funders of the NIDs in Morocco, the long-term prospects appear to be most favorable for the additional resources generated by the government for polio eradication vaccines. The implications are that when the polio eradication campaign is finished, the additional contributions of the government could be transferred to the routine immunization program since they may have been "institutionalized."

A second long-term possibility is that international organizations such as Rotary International will provide funds in the future to help the government fund another disease eradication campaign such as measles.



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## 6. Summary and Conclusions

A summary of some of the main findings from this assessment of financing of polio eradication activities, routine EPI, and health budgets are the following:

- > Three of the main funders of the polio eradication campaign in these countries—Rotary International, the government of Japan, and CDC—are focusing most of their resources on this campaign. In only one case was funding also provided for routine EPI—Japan’s financing of measles vaccine in Bangladesh.
- > Other donors provide funding only for routine EPI activities, e.g., KFW in Côte d’Ivoire and SIDA in Bangladesh.
- > The governments in each of the three countries as well as USAID, UNICEF, and WHO are funding both activities.
- > The ministry of health in each country has taken different approaches to funding of routine EPI and polio eradication activities:
  - ↑ In Bangladesh from 1993/4–1997/8, the Ministry of Health and Family Welfare increased its contributions to the routine EPI program but decreased its funding for polio eradication activities.
  - ↑ In Côte D’Ivoire, the MOH contribution has increased gradually both for routine EPI activities and the polio eradication campaign.
  - ↑ In Morocco, the MOH, with assistance from a World Bank loan, has increased its funding for both activities so that it now finances most of the costs of routine EPI and the polio eradication campaign.

The funding for routine EPI activities has been increasing in each of the three countries. Funding by the governments has increased for routine EPI activities during the period since the polio eradication activities were introduced. In Côte d’Ivoire and Morocco, the governments also have increased their contributions to the polio eradication campaign. The results suggest that no tradeoffs were made in Côte d’Ivoire and Morocco. Instead, the governments have increased their overall financing of routine EPI and polio eradication. In the case of Bangladesh, the government chose to concentrate its limited resources on routine EPI rather than polio eradication activities. This is an appropriate choice for the government since the routine coverage appears to be declining.

Most donors<sup>9</sup> (e.g., Rotary International) have concentrated their funding on either routine EPI or polio eradication activities, and did not need to make any tradeoffs regarding this funding. Only a few organizations—one donor, USAID, and two international organizations, WHO and UNICEF—fund

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<sup>9</sup> Although the government of Japan is providing funding for both routine EPI and polio eradication in some countries, it is funding primarily polio eradication activities in the three countries in this study.

both activities. None appears to be reducing its funding for routine EPI activities,<sup>10</sup> with the exception of UNICEF in Bangladesh.

It is likely, however, that there were opportunity costs in choosing to support polio eradication activities in each country rather than making improvements to the routine EPI program. For example, the funds could have been used to support the introduction of “new” vaccines such as Hepatitis B, or to provide more social mobilization activities for routine EPI.

On the other hand, it is possible that these other activities could not have attracted the additional funding that the high-profile polio eradication campaign did, and they would not have had sufficient financing.

This study has concentrated on funding for routine EPI and cannot draw conclusions regarding the impact of polio eradication on the financing of other health services in these three countries. It should be noted, however, that the funding for national immunization programs (routine EPI and polio eradication activities) has been increasing at a higher rate than for the health budget as a whole. It is possible that some tradeoffs in the provision of funding for immunization activities vis-à-vis other health activities are being made. However, without more information, no conclusions can be drawn.

### **Long-term Financing Prospects**

The long-term financing prospects can be divided into two types: 1) government funding for polio eradication activities, and 2) funding of donors and international organizations.

In two of the three countries in the study, Côte d’Ivoire and particularly in Morocco, the funding for polio eradication activities has increased during the time period investigated. One possibility is that, after the polio eradication campaign is finished, the additional funding can be kept for the national immunization program and be used to strengthen it.

Since much of the additional funding for polio eradication activities is from donors that provide financing for this activity and not routine EPI, the long-term prospects of obtaining funding from them is not clear. The government of Japan may choose to shift its funding from polio eradication to routine EPI, since it is funding the latter in some countries, but it is not clear that they will do so. It is also possible, however, that funders such as Rotary International and international organizations will shift their funding to another disease eradication campaign such as the one for measles, as discussed above in the Morocco section.

Finally, it should be noted that because some of the funding for the polio eradication campaign has been for the capital expenditures of equipment and vehicles, this funding has actually provided additional resources that can be used long-term by the routine EPI program.

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<sup>10</sup> It should be noted, however, that informal reports suggest that some reductions in USAID funding for routine EPI activities have occurred in other countries in West Africa as a result of introducing financing for polio eradication activities.

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